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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,167	05/23/2001	An-Gong Yeh	U0011 US NA	8801

23906 7590 12/08/2003

E I DU PONT DE NEMOURS AND COMPANY
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WILMINGTON, DE 19805

EXAMINER

FAISON, VERONICA F

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/863,167

Applicant(s)

YEH ET AL.

Examiner

Veronica F. Faison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9,11,12,15,17,20,21,23,26,27,32,33 and 35-40 is/are rejected.
- 7) ☒ Claim(s) 8,10,13,14,16,18,19,22,24,25,28-31,34,41 and 42 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

It does not identify the city and either state or foreign country of residence of each inventor. The residence information may be provided on either on an application data sheet or supplemental oath or declaration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4, 11-12, 17, 20, 21, 23, 26, 27, 32, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jager et al (US Patent 3,717,494).

Jager et al teach furnace blacks by treating the black before separation from the gas phase. The reference further teaches that the process for treating the furnace black comprising a fluidized bed with oxidizing gas or gas mixtures or in a container with stirring equipment with an aqueous solution of an oxidation agent. It is possible to reduce the pH value of a furnace black to 5 or below if an aqueous suspension of the black is treated with nitric acid or a mixture of hydrogen peroxide and sulfuric acid at slightly elevated temperature. The same effect can also be obtained if carbon in a fluidized bed reactor is exposed to the action of air which is enriched with oxygen or ozone, and in a given case additionally several percent of hydrogen peroxide vapor (col. 1 lines 38-53). The solution present in the process may comprise about 35 percent by weight of hydrogen peroxide (col. 2 lines 13-15). The reference remains silent to whether the pigment is self-dispersing, however it is the position of the Examiner that when the same process is used to treat a pigment that the pigment would also be self-dispersing. Jager et al fail to specifically exemplify the use of ozone as claimed by applicant. Therefore, it would have been obvious to one of ordinary skill in the art to use the ozone as claimed by applicant as Jager et al also discloses the use of ozone but shows no example incorporating them.

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Claims 1-3, 5-7, 9, 15, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karl (US Patent 6,471,763).

Karl teaches an oxidatively aftertreated carbon black which may be oxidized with ozone. The carbon black may be used in the production of water-based paints, printing inks and as inks for mechanical and manual recording and drawing instruments (abstract). The reference teaches that a fluid-bed apparatus for the batchwise oxidation of carbon black by ozone. The apparatus consists of a vertically arranged cylindrical treatment vessel. The vessel has at its lower end a fluidizing section comprising a jacket in the form of a truncate cone passing downwards from the cross-section of the cylinder, a conical upwardly-pointing displacing unit inserted into the truncated cone and, at the lowest point of the fluidizing section, at least one substantially tangentially running inlet pipe for the treatment gas. A relieving section with an outlet pipe for the waste gas is mounted above the treatment vessel. Carbon black can be introduced into the treatment vessel via the filler necks for the carbon black. A sensor is an indicator for controlling the height of the fluid bed. To produce the ozone, the treatment gas is passed through the ozone generator prior to entry into the treatment vessel (col. 4 line 60-col. 5 line 10). The reference remains silent to whether the pigment is self-dispersing and the amount of pigment present. The amount of pigment claimed by Applicant overlaps the conventional amount which is used in this type of process. However, it is the position of the Examiner that when the same process is used to treat a pigment that the pigment would also be self-dispersing. Therefore it would have been

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obvious to one of ordinary skill in the art that the pigment is self-dispersing because the process is the similar to that claimed by Applicant.

Claims 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karl (US Patent 6,471,763) as applied to claims 1-3, 5-7, 9, 15, 32 above, and further in view of Suzuki et al (US Patent 6,153,001).

Karl is described above but fails to teach the specific ink components claimed by the Applicant.

Suzuki et al teach an ink jet composition comprising water, an aqueous organic solvent, a surfactant and a self-dispersing pigment (abstract). The self-dispersing pigment may be treated by known method such as oxidizing agent including hydrogen peroxide and ozone (col. 8 lines 50-59). Therefore it would have been obvious to one of ordinary skill in the art to use the carbon black as taught by Karl in the ink composition of Suzuki et al as Suzuki et al discloses a carbon black which is treated by similar method as taught in Karl.

Allowable Subject Matter

Claims 8, 10, 13, 14, 16, 18, 19, 22, 24, 25, 28-31 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The references alone or in combination fail to teach a process with the following:

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1. wherein the pigment is an organic colored pigment,
2. a pre-mixing operation comprising agitating the mixture in a high speed dispersing apparatus,
3. wherein the self-dispersing pigment has an acid value of less than 3 $\mu\text{moles}/\text{M}^2$, or
4. the 6% of ozone present in the oxygen

Conclusion

The remaining references listed on forms 892 and 1449 have been reviewed by the Examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Veronica F. Faison whose telephone number is 703-305-3918. The examiner can normally be reached on Monday-Thursday and alternate Fridays 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on 703-308-3823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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After the move to new USPTO headquarters in Alexandria, VA, tentatively scheduled for the week of December 22, 2003, the Examiner's new phone number will be (571) 272-1366 and Mr. Bell's new phone number will be (571) 272-1362.

Veronica F. Faison



Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700